

Other State Initiatives to Address the Implementation Gaps

Following are policy actions that do not fall under any one particular strategy yet will help address the implementation gaps and achieve the Tributary Strategy goals.

2-YEAR ACTION PLAN

These initiatives are organized by the agency that will be responsible for implementing them. Many of these initiatives, however, will require the cooperation and coordination of several State agencies, local governments, and other stakeholders.

DNR will implement the following actions:

- Foster wetland restoration. This initiative will help provide the necessary technical expertise, project funds, partnerships, and incentives that will encourage landowners and land managers to maximize the benefit of existing funding



programs and to undertake wetland restoration projects. In order to achieve a balanced approach to wetland restoration efforts throughout Maryland, restoration targets will be set for both public and private lands.

- With support from all state agencies: target the Corsica watershed as a model for restoration. The Corsica watershed provides an opportunity to employ all State resources to reduce nutrients, including BMP implementation and targeted land preservation. This effort will provide invaluable experience and knowledge on how to overcome implementation barriers as well as result in measurable improvements in water quality.

The University of Maryland will implement the following actions:

- Complete the *Chesapeake Bay Program Innovation Strategy* for incorporating and approving innovative techniques into the Tributary Strategy and model calculations.

MDE will implement the following actions:

- TMDL implementation guidance will assist local governments in finding offsets to maintain the nutrient caps and improve water quality.



The Tributary Teams host meetings, forums, and workshops where local citizens, other organizations, and government officials can exchange information and ideas and move watershed initiatives forward.

- Create documents and maps that target areas for wetland restoration, creation, and enhancement thereby providing water quality and habitat benefits. Identify existing wetlands for preservation that will aid in offsets of additional nutrient loads from development. This action is funded by an EPA grant.
- Develop new guidelines for marsh creation as a practice for shore erosion control and wildlife habitat. This action is funded by an EPA grant.
- Develop new methods for evaluating the success of mitigated wetlands to process nutrients and to perform other water quality functions. The guidelines will include new monitoring, assessment, and construction practices. An EPA grant is funding this action.

5-YEAR ACTION PLAN

These initiatives are organized by the agency that will be responsible for implementing them. Many of these

initiatives, however, will require the cooperation and coordination of several State agencies, local governments, and other stakeholders.

DNR will implement the following actions:

- Double submerged aquatic vegetation restoration acreage using new planting technologies. In 2002, the EPA Chesapeake Bay Program and its partners committed to planting or seeding 1,000 acres of submerged aquatic vegetation baywide by 2008. This represents a several orders of magnitude increase over all previous efforts and will require the development of new technologies and approaches to meet this goal.
- Work with the U.S. Fish and Wildlife Service, MDE, MDA, and Ducks Unlimited to restore wetland functions while addressing issues, such as mosquito control, to improve the function and longevity of tidal wetlands.
- Partner with the Alliance for the Chesapeake Bay and the University of



Maryland College of Agriculture and Natural Sciences to work with Maryland utility companies and create a fund to decrease nutrient inputs to the State's waterways and provide for terrestrial carbon sequestration.

- Implement nonstructural (living) shoreline techniques on DNR-owned lands where practical to restore critical habitats and reduce shoreline erosion rates.

LONG-TERM ACTION PLAN

These are long-term initiatives for education, policy, and restoration needs to meet Bay water quality standards. These initiatives are organized by the agency that will be responsible for implementing them. Many of these initiatives, however, will require the

cooperation and coordination of several State agencies, local governments, and other stakeholders.

All State agencies will implement the following actions:

- Conduct education and outreach on the Chesapeake Bay, its bounty, and the threats it faces. This is done through graduate education, undergraduate internships, K-12 environmental education programs, K-12 teacher education programs, docent programs, Tributary Team activities, and other educational programs. In addition, the use of various media targeted to specific audiences are regularly developed.

DNR will implement the following actions:

- Implement ecosystem-based fisheries management plans in accordance with the Executive Council directive that incorporates water quality standards and watershed restoration and protection into fisheries management plans. The immediate policy action is to secure staff resources to identify monitoring, analysis, and modeling activities to support ecosystem-based fishery management plans and to locate sources of funding to implement these efforts to the extent practical.
- Develop a long-term, holistic approach for targeting habitat enhancement practices. Through assessments, determine areas of highest priority for water quality and biological diversity and increase implementation in these areas.

The University of Maryland Center for Environmental Science will implement the following actions:

- Study all aspects of nutrient dynamics in all media (air, land, and water) — from loading to biogeochemical transformations to the effects on the ecosystem, particularly phytoplankton uptake, shading of submerged aquatic vegetation, and sediment burial and re-suspension.
- Develop multi-species fishery management plans.
- Establish ecosystem-based restoration science on the oyster, particularly as it relates to population enhancement, natural spat settlement, disease resistance, and the effects of oyster reefs on denitrification.
- Conduct targeted research on the non-native Asian oyster to determine if viable wild populations could exist in Maryland's portion of the Bay and, if so, their effect on native oysters and the Bay ecosystem in general.
- Research the ecology and ecosystem dynamics of harmful algal blooms.
- Identify the effects of landscape changes on water quantity and quality, flooding, and the stream and river ecosystems.
- Study the effects of sea level rise and subsidence on erosion, marsh size and function, and sediment re-suspension in relation to how this will offset Bay restoration.

